

Title (en)

TECHNOLOGIES FOR ZONAL FAULT PROTECTION OF DC DISTRIBUTION SYSTEMS

Title (de)

TECHNOLOGIEN FÜR ZONALEN FEHLERSCHUTZ VON GLEICHSTROMVERTEILUNGSSYSTEMEN

Title (fr)

TECHNIQUES DE PROTECTION CONTRE LES PANNES ZONALES DE SYSTÈMES DE DISTRIBUTION DE COURANT CONTINU

Publication

EP 3107171 A1 20161221 (EN)

Application

EP 16171229 A 20160525

Priority

US 201514741412 A 20150616

Abstract (en)

Technologies for detecting a fault location in a DC electrical distribution system include a bus protection unit that monitors a DC electrical bus. The bus protection unit includes at least one sensor to produce sensor data indicative of one or more characteristics of the DC electrical bus monitored by the bus protection unit. The bus protection unit monitors the sensor data, determines whether a fault has occurred based on the sensor data, and determines whether the fault occurred within a bus zone defined by the DC electrical bus in response to determining that the fault has occurred. Further, the bus detection unit trips isolation devices within the bus zone in response to a determination that the fault occurred within the bus zone or a communication from another bus protection unit indicating the fault has occurred within the bus zone. The bus protection unit transmits a bus fault indication signal to another bus protection unit in response to a determination that the fault has occurred.

IPC 8 full level

H02H 7/26 (2006.01)

CPC (source: CN EP RU US)

G01R 31/08 (2013.01 - RU); **H02H 3/042** (2013.01 - US); **H02H 3/08** (2013.01 - RU US); **H02H 7/261** (2013.01 - EP US); **H02H 7/262** (2013.01 - EP US); **H02H 7/268** (2013.01 - CN EP US); **H02J 13/0006** (2023.08 - CN); **G01R 31/08** (2013.01 - US); **H02H 3/20** (2013.01 - US); **Y02E 60/00** (2013.01 - EP); **Y04S 10/20** (2013.01 - EP)

Citation (applicant)

- US 201414255674 A 20140417
- CN 2014076720 W 20140504

Citation (search report)

- [XA] CN 102306956 A 20120104 - NINGBO YINZHOU POWER SUPPLY BUREAU
- [XA] US 2014078628 A1 20140320 - VALDES MARCELO ESTEBAN [US], et al
- [XA] EP 2654156 A1 20131023 - SIEMENS AG [DE]
- [A] US 2012182657 A1 20120719 - NARENDRA KRISHNASWAMY GURURAJ [CA], et al
- [A] WO 2011157305 A1 20111222 - ABB RESEARCH LTD [CH], et al

Cited by

CN107332202A; EP3686615A1; EP3379670A1; CN107515356A; US11101642B2; WO2020151979A1; WO2018172135A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3107171 A1 20161221; **EP 3107171 B1 20210623**; CN 106257784 A 20161228; CN 106257784 B 20190816; RU 2016123906 A 20171220; RU 2724126 C2 20200622; US 2016372911 A1 20161222; US 9762047 B2 20170912

DOCDB simple family (application)

EP 16171229 A 20160525; CN 201610424314 A 20160615; RU 2016123906 A 20160615; US 201514741412 A 20150616